JET Meeting Minutes
November 19, 2008, 1:00-4:00 Central Standard Time
SC08, Room M8

I. Participants

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Action Items

1. Grant Miller will continue to remind Mike Smith of DHS to send the JET the definition of an External Connection for TICs.

2. JET should ask the LSN what they are looking for in the JET recommendations on performance measurement. Is the LSN looking for an action plan on how to implement a standardized capability for performance measurement?

Proceedings
This meeting of the JET was chaired by Vince Dattoria of DOE/Science.
A review of the action items identified that the first action item from the October JET meeting:

1. Mike Smith will send the JET members an electronic version of the definition of External Connection so the research networks can implement TIC capabilities consistent with the definition.

was not completed.

AI: Grant Miller will continue to remind Mike Smith of DHS to send the JET the definition of an External Connection for TICs.

Nagi Rao and Bill Wing will discuss their performance measurement over a 6000 mile testbed facility at the February or March JET meeting

Network and Exchange Point Roundtable

DREN
DREN is continuing to provide IPv6 at the customer level to offer its users the option to use IPv6. DREN is considering how it can establish a security defense at DOD consistent with the TIC requirements. Can DREN continue to offer an open network? DREN intends to be a TIC service provider and they have a combination of .dod and .gov users on their network.

ESnet
ESnet has completed the buildout of their Science Data Network. It is equivalent to the Internet2 DCN service and provides circuits between DOE science sites. ESnet, Juniper, Infinera, Internet2 and Level 3 are starting work on a 100 G (on one lambda) testbed. They anticipate demonstrating this at SC09. DREN is interested in the SDN/DCN network technology to provide the bandwidth they need for an application.

Internet2Net ??????
The upgrades to support the SDN rollout have now been implemented. The R&E space routing tables are being rearchitected to delete the commercial network routes. Commercial ASs are now being filtered out. They are implementing the optical node for the Pacific Northwest GigaPoP on Internet2Net – ETA is Jan 2009.

NISN
NISN enabled a VPN across Renateur, GEANT, and CNES for Project Calypso between Toulouse, France, and Langley Research Center. NISN has submitted a service request for multicast service to support NASA Public TV. It will take approximately 3 months to initiate service after it is ordered. They are purchasing a CODEC to install at NASA Goddard to support this potential requirement. NISN has a possible requirement for multicast to Ireland for the NASA TV service. NISN will be implementing IPv6 in its peering with Internet2. The NISN link to the MAX is being increased to 10 GE. NISN is trying to relocate the proposed San Jose TIC to NASA Ames.

NLR
NLR has started to upgrade its northern tier (LAX up and over to JAX) with new optronics replacing the Cisco 15808s - ETA is May 2009 NLR is considering implementing the Sherpa dynamic VLAN tool in such a way as to provide compatibility with the other R&E networks' dynamic services.

NOAA

NOAA is implementing two new circuits to Boulder, Colorado; one from Seattle, Washington; the other from Norman, Oklahoma. They plan to interconnect many of the NOAA sites with high-speed service.

NREN

NREN service has been extended to March 31, 2009. NREN is currently streaming IPv6 video from Ames Research Center to the NASA SC08 booth. Also at SC08 NREN is demonstrating a 10 Km encrypted Infiniband service at OC192

Florida LambdaRail

FLR is implementing a connection to NAS Pensacola, NavAir Station in support of training programs. They are working with James Cook of DREN.

TransPac

Brent Sweeney implemented a DCN connection over a TransPac SONET connection. The Japanese are using it for SC08 demonstrations.

The TransPac link to Pakistan is now in use.

BoreasNet

The BoreasNet was upgraded to 10 GE over 1200 miles of pathway. It also has 900 miles of network over the Northern Tier fabric into South Dakota.

PWave

PWave implemented a 10 G wave to SC08. They provided 10 G to Seattle for a conference and will have 20G for connectivity to the West coast. They are working on testing DCN with the Australians in January 2009.

Exchange Points

ManLAN
No changes were reported

Meetings of Interest

February 1-5, College Station, Texas: Internet2/ESCC Joint Techs Workshop
February 4-5, College Station, Texas: ESCC meeting

Alaskan Connectivity

Steve Smith reported on connectivity to the University of Alaska and the Arctic Region Supercomputer Center (ARSC). The University of Alaska at Fairbanks is receiving a gift from GCI of 2 fibers to provide OC192 service to the university. It is a 10 year agreement at no cost. The fibers go from the Westin Building in Seattle to Anchorage. An RFP is in-place to provide the connectivity for the link from Anchorage to the University of Alaska, Fairbanks. The AUP for this gift excludes agency to agency

and intra-agency traffic. This new circuit is a protected circuit and will be functioning in January 2009. It will begin as OC12 service but will increase in OC48 increments as additional service is needed.

NASA has a new requirement for connectivity to the Alaska SAR facility that is acceptable traffic under the AUP as the data is post processed then stored at the university before being sent on. ARSC traffic can be carried by the circuit but other DREN traffic is excluded. DREN plans to increase its connectivity to ARSC to OC48 not using the GCI circuit.

Performance Measurement White Paper

Rich Carlson reported on the development of the JET White Paper on Performance Measurement that is being developed in response to tasking from the LSN. This briefing will be reported to the LSN tomorrow.

The JETnets each monitor their own nets. Peering points are not monitored comprehensively. The DREN/Internet2 prototype monitoring effort carried out over the last 3 years requires a large manual effort to identify test points for monitoring, to coordinate the taking of measurements, and to correlate the testing measurements. Since network links are not routinely monitored, specific monitoring measurements over a link usually identify problems over the links that need correction. A new network performance monitoring capability is needed so that one person can readily investigate network performance between endpoints across more than one domain with the appropriate authorizations. A Web based message exchange is needed with well-defined sets of services to find, store, and retrieve data from test points. Data collection services should be separate from data consumption services.

A PerfSONAR testing service has been defined for multinational groups. The services are available on a bootable CD. LHC has accepted these tools as their deployment suite. GEANT is also cooperating on deployment of PerfSONAR.

Discussion among the JET members indicated that we need a plan going forward. Roles and responsibilities need to be defined for each network entity. What are the JET recommendations for implementing performance measurement across networks?   How do we deploy a common toolset to provide a ubiquitous capability? We need to establish:
- Tools to collect data and store it in a format compatible with PerfSONAR
- Testing to provide the data on performance
- Policies for sharing data

AI: JET should ask the LSN what they are looking for in the JET recommendations on performance measurement. Is the LSN looking for an action plan on how to implement a standardized capability for performance measurement?

ARIN: Richard Jimmerson

39 /8s remain to be allocated. 10 of these are expected to be allocated very soon. Depletion of the /8 address space is expected in 2010-2011. (The regional registries have an additional 12-18month supply.)

IPv6 registration continues to increase, primarily in Europe, with 1000 v6 address spaces allocated.

ARIN continues to increase its outreach to provide greater awareness to users for the need to implement v6 address space.

Transfer policy for v4 addresses might make additional address space available but it also leads to increasing the size of the address tables which in turn - exacerbates router memory issues. (Future V4 transfer policies may have impact for JET members.)

The ARIN policy for legacy RSA is still in review. They welcome comments from JET members.

ARIN is currently registering 4 byte ASs.

Future JET Meetings
December 16, 11:00-2:00 at the NSF, Room 1150. Canceled
January 2009 Meeting: Canceled
February 2, 2009, 8:15-10:45 Hilton Hotel, College Station, Texas (In conjunction with the Joint Techs meeting)
March 17, 2009, 11:00-2:00 at the NSF, Room 1150